FILE REG

=> S HISTIDINASE/CN
L1 1 HISTIDINASE/CN

=> D

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 9013-75-6 REGISTRY
CN Ammonia-lyase, histidine (9CI) (CA INDEX NAME)
OTHER NAMES:
CN E.C. 4.3.1.3
CN Histidase
CN ***Histidinase***
CN Histidine .alpha.-deaminase
CN Histidine ammonia-lyase
CN Histidine deaminase
CN L-Histidase
CN L-Histidine ammonia-lyase
MF Unspecified
CI MAN
LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CHEMCATS, CSCHEM, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, NAPRALERT, TOXCENTER, USPAT2, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
644 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
644 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> S HISTIDASE/CN
L2 1 HISTIDASE/CN

=> D

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 9013-75-6 REGISTRY
CN Ammonia-lyase, histidine (9CI) (CA INDEX NAME)
OTHER NAMES:
CN E.C. 4.3.1.3
CN ***Histidase***
CN Histidinase
CN Histidine .alpha.-deaminase
CN Histidine ammonia-lyase
CN Histidine deaminase
CN L-Histidase
CN L-Histidine ammonia-lyase
MF Unspecified
CI MAN
LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CHEMCATS, CSCHEM, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, NAPRALERT, TOXCENTER, USPAT2, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
644 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
644 REFERENCES IN FILE CAPLUS (1907 TO DATE)

FILE 'CAPLUS' ENTERED AT 13:14:46 ON 19 MAR 2004

=> S L1;S HISTIDASE;S HISTIDINASE
L3 644 L1

557 HISTIDASE
16 HISTIDASES

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L4          557 HISTIDASE
                (HISTIDASE OR HISTIDASES)


L5           23 HISTIDINASE

=> S L3,L4,L5
L6          790 (L3 OR L4 OR L5)

=> S PURIFI?
         615529 PURIFI?
         262722 PURIFN
            233 PURIFNS
         262825 PURIFN
                (PURIFN OR PURIFNS)
L7       716237 PURIFI?
                (PURIFI? OR PURIFN)

=> S L7 AND L6
L8           86 L7 AND L6

=> S HITIDINOL
             0 HITIDINOL
L9           0 HITIDINOL

=> S HISTIDINOL
           576 HISTIDINOL
             1 HISTIDINOLS
L10        576 HISTIDINOL
               (HISTIDINOL OR HISTIDINOLS)

=> S L10 AND L8
L11          3 L10 AND L8

=> D 1-3 CBIB ABS

L11  ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2004 ACS on STN
1993:250244   Document No. 118:250244  Histidine ammonia-lyase from
     Streptomyces griseus.  Wu, Pen Chaur; Kroening, Terry A.; White, Peter J.;
     Kendrick, Kathleen E. (Dep. Microbiol., Ohio State Univ., Columbus, OH,
     43210, USA).  Gene, 115(1-2), 19-25 (English) 1992.  CODEN: GENED6.  ISSN:
     0378-1119.
AB   Histidine ammonia-lyase (  ***histidase***  ; HutH) has been
       ***purified***   to homogeneity from S. griseus and the N-terminal amino
     acid (aa) sequence used to clone the   ***histidase***  -encoding
     structural gene, hutH.  The   ***purified***   enzyme shows typical satn.
     kinetics and is inhibited competitively by D-histidine and
       ***histidinol***   phosphate.  High concns. of K.cntdot.cyanide inactivate
     HutH unless the enzyme is protected by the substrate or   ***histidinol***
     phosphate.  On the basis of the nucleotide sequence, the hutH structural
     gene would encode a protein of 53 kDa with an N terminus identical to that
     detd. for the   ***purified***   enzyme.  Immediately upstream from hutH
     is a region that strongly resembles a class of Streptomyces promoters
     active during vegetative growth; however, there is no obvious
     ribosome-binding site adjacent to the hutH translation start codon.  The
     deduced aa sequence of an upstream partial open reading frame shows no
     similarity with other proteins, including HutP of Bacillus subtilis and
     HutU of Pseudomonas putida.  Promoter-probe anal. indicates that promoter
     activity maps within the DNA surrounding the hutH start codon.  Pairwise
     comparisons of the primary structures of bacterial and mammalian
       ***histidases***  , together with the unique kinetic properties and gene
     organization, suggest that streptomycete   ***histidase***   may represent
     a distinct family of   ***histidases***  .

L11  ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2004 ACS on STN
1993:186719   Document No. 118:186719    ***Purification***   of
       ***histidase***   from Streptomyces griseus and nucleotide sequence of the
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hutH structural gene. Wu, Pen Chaur; Kroening, Terry A.; White, Peter J.; Kendrick, Kathleen E. (Dep. Microbiol., Ohio State Univ., Columbus, OH, 43210-1292, USA). Journal of Bacteriology, 174(5), 1647-55 (English) 1992. CODEN: JOBAAY. ISSN: 0021-9193.

AB Histidine ammonia-lyase (***histidase***) was ***purified*** to homogeneity from vegetative mycelia of S. griseus. The enzyme was specific for L-histidine and showed no activity against the substrate analog, D-histidine. ***Histidinol*** phosphate was a potent competitive inhibitor. ***Histidase*** displayed satn. kinetics with no detectable sigmoidal response. Neither thiol reagents nor a variety of divalent cations had any effect on the activity of the ***purified*** enzyme. High concns. of potassium cyanide inactivated histdase in the absence of its substrate or ***histidinol*** phosphate, suggesting that, as in other ***histidases*** , dehydroalanine plays an important role in catalysis. The N-terminal amino acid sequence of ***histidase*** was used to construct a mixed oligonucleotide probe to identify and clone the ***histidase*** structural gene, hutH, from genomic DNA of the wild-type strain of S. griseus. The cloned DNA restored the ability of a ***histidase*** structural gene mutant to grow on L-histidine as the sole nitrogen source. The deduced amino acid sequence of hutH shows significant relatedness with ***histidase*** from bacteria and a mammal as well as phenylalanine ammonia-lyase from plants and fungi.

L11 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

1976:401633 Document No. 85:1633 Histidine ammonia-lyase from rat liver. ***Purification*** , properties, and inhibition by substrate analogs. Brand, Larry M.; Harper, Alfred E. (Coll. Agric. Life Sci., Univ. Wisconsin, Madison, WI, USA). Biochemistry, 15(9), 1814-21 (English) 1976. CODEN: BICHAW. ISSN: 0006-2960.

AB Histidine ammonia-lyase (I) from rat liver was ***purified*** >250-fold to near homogeneity. Electrophoretic detns. indicated a native mol. wt. of .apprx.200,000. The enzyme had a pH optimum of .apprx.8.5. The min. Km for L-histidine was 0.5 mM at pH 9.0. The Km in the physiol. pH range was, however, >2.0 mM. D-.alpha.-hydrazinoimidazolylpropionic acid was a potent competitive inhibitor of liver I; the L enantiomer of this compd. was less effective in this regard. The enzyme was also inhibited competitively by L-histidine hydroxamate (Kis = 0.4 mM), and to a lesser extent by L- ***histidinol*** , D-histidine, and glycine. Failure of a wide variety of other histidine analogues to inhibit the enzyme substantially indicates high specificity of the active site for L-histidine. No alternate substrates were identified for the enzyme. DL-.alpha.-hydrazinophenylpropionic acid, the .alpha.-hydrazino analog of phenylalanine, was a very potent competitive inhibitor of a mechanistically similar L-phenylalanine ammonia-lyase ***purified*** from Rhodotorula glutinis. The properties of I from rat liver differed significantly from those of the enzyme from Pseudomonas fluorescens, which has been studied most extensively to date.

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=> S L8 NOT L11
L12          83 L8 NOT L11

=> S CANCER;S CARCINOMA;S VIRUS;S TUMOR;S RETROVIRAL;S CHEMOTHERA?;S IMMUNOSUPPRESSANT
         209814 CANCER
          29857 CANCERS
L13      218012 CANCER
                (CANCER OR CANCERS)


         109031 CARCINOMA
          25148 CARCINOMAS
            157 CARCINOMATA
L14      115872 CARCINOMA
                (CARCINOMA OR CARCINOMAS OR CARCINOMATA)
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        296395 VIRUS
         63736 VIRUSES
L15      307132 VIRUS
                  (VIRUS OR VIRUSES)


         300738 TUMOR
         123501 TUMORS
L16      341211 TUMOR
                  (TUMOR OR TUMORS)


          14537 RETROVIRAL
             12 RETROVIRALS
L17       14540 RETROVIRAL
                  (RETROVIRAL OR RETROVIRALS)


L18       52483 CHEMOTHERA?


          11792 IMMUNOSUPPRESSANT
          16912 IMMUNOSUPPRESSANTS
L19       19518 IMMUNOSUPPRESSANT
                  (IMMUNOSUPPRESSANT OR IMMUNOSUPPRESSANTS)

=> S L6 AND (L13,L14,L15,L16,L17,L18,L19)
L20           52 L6 AND ((L13 OR L14 OR L15 OR L16 OR L17 OR L18 OR L19))

=> S L20 AND L12
L21            3 L20 AND L12

=> S L20 NOT L21
L22           49 L20 NOT L21

=> D L21 1-3 CBIB ABS;D L22 1-49 TI

L21  ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2004 ACS on STN
2003:874013  Document No. 140:192431  Identification of common or distinct
     genes related to antitumor activities of a medicinal herb and its major
     component by oligonucleotide microarray.  Iizuka, Norio; Oka, Masaaki;
     Yamamoto, Kotaro; Tangoku, Akira; Miyamoto, Koji; Miyamoto, Takanobu;
     Uchimura, Shunji; Hamamoto, Yoshihiko; Okita, Kiwamu (Department of
     Bioregulatory Function, Yamaguchi University School of Medicine,
     Yamaguchi, Japan).  International Journal of Cancer, 107(4), 666-672
     (English) 2003.  CODEN: IJCNAW.  ISSN: 0020-7136.  Publisher: Wiley-Liss,
     Inc..

AB   Although the physiol. actions of many herbs are gradually being elucidated
     at the mol. level, it remains unclear how individual components of herbs
     contribute to their biol. activities.  In the present study, the
     antiproliferative activity of Coptidis rhizoma, a medicinal herb, and the
     major component berberine was investigated in 8 human pancreatic
       ***cancer***  cell lines.  Gene expression patterns assocd. with
     sensitivities to each agent were analyzed with oligonucleotide arrays that
     comprised approx. 11,000 genes.  We used a tetrazolium dye (MTT) assay to
     det. ID50 values after the 8 cell lines were exposed to the 2 agents for
     72 h.  The ID50 value for berberine was correlated pos. with that for C.
     rhizoma (r=0.725, p=0.0401).  C. rhizoma killed  ***tumor***  cells more
     effectively than  ***purified***  berberine when normalized to the level
     of berberine present in the herb.  From the oligonucleotide array data, we
     selected 20 and 13 genes with strong correlations (r2>0.81) to ID50 values
     for berberine and C. rhizoma, resp.  Among these 33 genes, the levels of
     expression of 12 were correlated with the ID50 values of both agents,
     suggesting that these genes are assocd. with  ***tumor***  -killing
     activity of berberine in C. rhizoma.  Expression of the remaining 21 genes
     was correlated with the ID50 value of either  ***purified***  berberine
     or C. rhizoma.  Thus, we identified common and distinct genes responsible
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for anti-proliferative activities of ***purified*** berberine and C. rhizoma. This strategy may improve our understanding of the actions of herbs with antitumor activities.

L21 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
1983:551794 Document No. 99:151794 The effect of histidine ammonia-lyase on some murine ***tumors*** . Jack, George W.; Wiblin, Christopher N.; McMahon, Patrick C. (Cent. Appl. Microbiol. Res., PHLS, Salisbury/Wilts., SP4 0JG, UK). Leukemia Research, 7(3), 421-9 (English) 1983. CODEN: LEREDD. ISSN: 0145-2126.

AB The L-histidine ammonia-lyase [***9013-75-6***] from bacterial strain CAMR 5315 was partially ***purified*** to assess its effect on the growth of murine ***tumors*** . The enzyme was partially ***purified*** by ammonium sulfate fractionation, chromatog. on DEAE-cellulose and Sephadex G-150. The enzyme reduced circulating L-histidine levels in Wistar rats and in mice persisted with a half-life of 6-7 h. Neither LDH ***virus*** nor chem. modification with ethylacetimidate increased the half-life as obsd. with L-asparaginase and L-glutaminase. The enzyme was tested in mice against Ehrlich ***carcinoma*** , L5178Y lymphoblastic leukemia, Mc/S sarcoma, B16 melanoma, P8157 mastocytoma, P1798 lymphosarcoma, and the Gardner 6C3HED lymphosarcoma. The only ***tumors*** to show sensitivity to the enzyme were the Mc/S sarcoma against which a 65% increase in life span was obsd. at the highest enzyme dose, 1000 U/kg on alternate days over 14 days and the Ehrlich ascites ***carcinoma*** where cures were obtained at 250 U/kg on alternate days over 14 days, but only at inocula levels of 105 and 103 cells/animal resp.

L21 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
1979:551304 Document No. 91:151304 Biologic and antineoplastic effects of enzyme-mediated in vivo depletion of L-glutamine, L-tryptophan, and L-histidine. Roberts, Joseph; Schmid, Franz A.; Rosenfeld, Henry J. (Sloan-Kettering Inst. Cancer Res., Rye, NY, 10580, USA). Cancer Treatment Reports, 63(6), 1045-54 (English) 1979. CODEN: CTRRDO. ISSN: 0361-5960.

AB Novel enzymes, capable of depleting L-glutamine [56-85-9] plus L-asparagine [70-47-3], L-tryptophan [73-22-3], were ***purified*** from soil isolate organisms. L-Glutaminase-L-asparaginase (I) [39335-03-0] from Pseudomonas 7A demonstrated substantial antineoplastic activity against a variety of L-asparaginase-resistant leukemias (L1210, EARAD/1/AR, and C1498), an ascites ***tumor*** (Taper liver ***tumor***), and solid ***tumors*** (B16 melanoma and Walker 256 carcinosarcoma). I from Pseudomonas 7A was considerably more potent antitumor agent than I from Acinetobacter . ***Tumors*** did not develop resistance to I as they do to Escherichia coli L-asparaginase (EC-2). Resistance to EC-2 by EARAD/1 leukemia cells developed in treatment of 2 generations. By contrast, after treatment of 10 generations with I, EARAD/1 leukemia cells were just as sensitive to both L-glutaminase-L-asparaginase and EC-2 as the parent ***tumor*** . Combination therapy with I plus methotrexate [59-05-2] or azaserine [115-02-6] appeared promising. Indolyl-3-alkane .alpha.-hydroxylase [63363-76-8], which attacks the side chain of L-tryptophan, serotonin, and other 3-substituted indole compds., caused marked depletion of L-tryptophan and serotonin [50-67-9] in body fluids and certain tissues. This enzyme exhibited significant antineoplastic activity against a variety of mouse ***tumors*** : Meth A sarcoma, Ehrlich ***carcinoma*** , and Taper liver ***tumor*** . An L-***histidase*** [***9013-75-6***], which had near-optimal activity in the physiol. pH range and a Km of 1 mM, was isolated from a soil organism belonging to the Corynebacteriaceae. The plasma half-life of this L- ***histidase*** in mice was .apprx.8 h. Treatment of ***tumor*** -bearing mice with 500 IU L- ***histidase*** /kg/day maintained plasma L-histidine at unmeasurably low levels (<3 nmol/mL) and resulted in inhibition of total packed cell vol. of the ascitic forms of Ehrlich ***carcinoma*** and Meth A sarcoma.

=> S L22 RANGE=(1970-2000)
L23 19 L20 NOT L21

=> S L22 RANGE=(1950-2000)
L24 34 L20 NOT L21

=> D 1-34 CBIB ABS

L24 ANSWER 1 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1999:795994 Document No. 132:31744 Gene probes used for genetic profiling in healthcare screening and planning. Roberts, Gareth Wyn (Genostic Pharma Ltd., UK). PCT Int. Appl. WO 9964627 A2 19991216, 745 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-GB1780 19990604. PRIORITY: GB 1998-12099 19980606; GB 1998-13291 19980620; GB 1998-13611 19980624; GB 1998-13835 19980627; GB 1998-14110 19980701; GB 1998-14580 19980707; GB 1998-15438 19980716; GB 1998-15576 19980718; GB 1998-15574 19980718; GB 1998-16085 19980724; GB 1998-16086 19980724; GB 1998-16921 19980805; GB 1998-17097 19980807; GB 1998-17200 19980808; GB 1998-17632 19980814; GB 1998-17943 19980819.

AB There is considerable evidence that significant factor underlying the individual variability in response to disease, therapy and prognosis lies in a person's genetic make-up. There have been numerous examples relating that polymorphisms within a given gene can alter the functionality of the protein encoded by that gene thus leading to a variable physiol. response. In order to bring about the integration of genomics into medical practice and enable design and building of a technol. platform which will enable the everyday practice of mol. medicine a way must be invented for the DNA sequence data to be aligned with the identification of genes central to the induction, development, progression and outcome of disease or physiol. states of interest. According to the invention, the no. of genes and their configurations (mutations and polymorphisms) needed to be identified in order to provide crit. clin. information concerning individual prognosis is considerably less than the 100,000 thought to comprise the human genome. The identification of the identity of the core group of genes enables the invention of a design for genetic profiling technologies which comprises of the identification of the core group of genes and their sequence variants required to provide a broad base of clin. prognostic information - "genostics". The "Genostic" profiling of patients and persons will radically enhance the ability of clinicians, healthcare professionals and other parties to plan and manage healthcare provision and the targeting of appropriate healthcare resources to those deemed most in need. The use of this invention could also lead to a host of new applications for such profiling technologies, such as identification of persons with particular work or environment related risk, selection of applicants for employment, training or specific opportunities or for the enhancing of the planning and organization of health services, education services and social services.

L24 ANSWER 2 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1999:795993 Document No. 132:31743 Gene probes used for genetic profiling in healthcare screening and planning. Roberts, Gareth Wyn (Genostic Pharma Limited, UK). PCT Int. Appl. WO 9964626 A2 19991216, 149 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-GB1779 19990604. PRIORITY: GB 1998-12098 19980606; GB 1998-28289 19981223.

AB There is considerable evidence that significant factor underlying the individual variability in response to disease, therapy and prognosis lies in a person's genetic make-up. There have been numerous examples relating that polymorphisms within a given gene can alter the functionality of the protein encoded by that gene thus leading to a variable physiol. response. In order to bring about the integration of genomics into medical practice and enable design and building of a technol. platform which will enable the everyday practice of mol. medicine a way must be invented for the DNA sequence data to be aligned with the identification of genes central to the induction, development, progression and outcome of disease or physiol. states of interest. According to the invention, the no. of genes and their configurations (mutations and polymorphisms) needed to be identified in order to provide crit. clin. information concerning individual prognosis is considerably less than the 100,000 thought to comprise the human genome. The identification of the identity of the core group of genes enables the invention of a design for genetic profiling technologies.

L24 ANSWER 3 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1995:465731 Document No. 122:205181 Method and apparatus for treatment of ***tumors*** by selective modulation of amino acids in extracorporeal blood. Tepic, Slobodan (AO-Forschungsinstitut, Switz.). PCT Int. Appl. WO 9504560 A1 19950216, 51 pp. DESIGNATED STATES: W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, UZ, VN; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1994-EP2640 19940809. PRIORITY: US 1993-104984 19930810.

AB A method of treatment of ***tumors*** is described which is based on a fundamental dynamic difference between the normal and ***tumor*** cells, which underscores the very danger of ***tumors*** - their propensity to grow and proliferate under conditions where normal cells would not do so. The preferred mode of treatment is by extracorporeal blood conditioning, whereby the concn. of one of the set (essential) amino acids is the control parameters. The blood is passed through a filter where the blood cells and the high mol. wt. constituents are sepd. from a plasma fraction contg. low mol. wt. substances, including amino acids. The fraction with low mol. wt. substances is reacted against either absorption or decompg. agents and returned to the blood. The filtration is done to decrease the concn.; increase is controlled by simply injecting the amino acid. A single treatment session includes at least four phases whereby the concn. is first decreased (collecting all cells in the G0 phase); then increased (pushing the ***tumor*** cells over restriction point); then decreased to min. level possible (killing the ***tumor*** cells); and finally normalized. Diagrams of the app. are included.

L24 ANSWER 4 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1992:56504 Document No. 116:56504 ras Transformation of simian ***virus*** 40-immortalized rat hepatocytes: an in vitro model of hepatocarcinogenesis. Fang, Xian Jun; Flowers, Michele; Keating, Armand; Cameron, Ross; Sherman, Morris (Dep. Med., Toronto Hosp., Toronto, ON, M5G 2C4, Can.). Cancer Research, 52(1), 173-80 (English) 1992. CODEN: CNREA8. ISSN: 0008-5472.

AB Primary rat hepatocytes were transfected with simian ***virus*** 40 DNA and cultured in a chem. defined medium. Proliferating colonies developed after 2-3 wk. Three cell lines were established by cloning albumin-secreting colonies, as identified by an immunooverlay assay. Two of the cell lines, ALB-6 and ALB-8, expressed all 5 liver-specific mRNAs studied, albumin, .alpha.-1-antitrypsin, fibrinogen, .alpha.-1-acid glycoprotein, and ***histidase*** . ALB-6 cells were nontumorigenic in nude mice while ALB-8 cells were weakly tumorigenic with only one of four injected nude mice developing a slowly growing ***tumor*** . Further transfection of ALB-6 and ALB-8 cells with an activated c-Ha-ras or N-ras oncogene resulted in strongly tumorigenic cells. The ***tumors*** induced by ras-transformed ALB-6 cells were moderately differentiated hepatocellular ***carcinomas*** . The ***tumors*** derived from ras-transformed ALB-8 cells were poorly differentiated, while the slowly

growing ***tumors*** induced by untransfected or control DNA-transfected ALB-8 cells were well differentiated trabecular hepatocellular ***carcinomas*** , suggesting histol. dedifferentiation of cells following ras transformation. However, the synthetic capabilities of the cells were not lost in that the ras-transfected cultures and the ***tumors*** induced by ras-transformed cells retained the ability to synthesize the 5 liver-specific mRNAs. Thus, the authors developed an in vitro model of carcinogenesis in which, by sequential exposure to SV40 DNA and a ras oncogene, primary rat hepatocytes are transformed.

L24 ANSWER 5 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1985:516606 Document No. 103:116606 Modulation (feminization) of hepatic enzymes by an ectopic pituitary ***tumor*** . Lamartiniere, C. A. (Med. Cent., Univ. Mississippi, Jackson, MS, 39216, USA). Endocrinology, 117(2), 523-6 (English) 1985. CODEN: ENDOAO. ISSN: 0013-7227.
AB The ontogeny and endocrine regulation of sex-differentiated hepatic metab. is mediated via the hypothalamic-pituitary axis. Using in vitro-in vivo systems, alterations in activity levels of 6 sex-differentiated enzyme systems were demonstrated in male rats bearing ectopic pituitary ***tumors*** after the injection of a pituitary cell line, C811RAP. Activity levels of hepatic glutathione S-transferase [50812-37-8], UDP-glucuronyltransferase [9030-08-4], and aryl hydrocarbon hydroxylase [9037-52-9] are reduced to activity levels of control females, whereas ***histidase*** [***9013-75-6***], 5.alpha.-reductase [9081-34-9], and serum cholinesterase [9001-08-5] levels were increased to levels of control females, i.e. feminization of all of these enzymes. RIAs of testosterone, estrogen, FSH, and prolactin were similar in ***tumor*** -bearing and control animals, but growth hormone (GH) [9002-72-6] levels were significantly higher in ***tumor*** -bearing animals than in the controls. Thus, GH may be the pituitary factor responsible for the expression of sex-differentiated hepatic metab.

L24 ANSWER 6 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1984:528163 Document No. 101:128163 Effect of Zajdela ascites hepatoma on the activity and synthesis of liver ***histidase*** of ***tumor*** -bearing rats. Fedorov, S. A.; Khasigov, P. Z.; Nikolaev, A. Ya. (Dep. Biochem., I. M. Sechenov 1st. Moscow Med. Inst., Moscow, 119435, USSR). Cancer Letters (Shannon, Ireland), 23(1), 67-71 (English) 1984. CODEN: CALEDQ. ISSN: 0304-3835.
AB The synthesis of ***histidase*** occurs only in free polyribosomes. The relative content of ***histidase*** synthesizing polyribosomes in rat liver, in Zajdela ascites hepatoma cells, and in the liver of ***tumor*** -bearing rats is equal to 1.35%, 0.11%, and 0.57%, resp. (of the total amt. of free polyribosomes). Hepatoma cell sap has an inhibitory effect on the synthesis of proteins in the cell-free system reconstructed from polyribosomes and cell sap of control rats.

L24 ANSWER 7 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1984:497657 Document No. 101:97657 Implantable tubes containing therapeutic enzymes. (Chisso Corp., Japan). Jpn. Kokai Tokkyo Koho JP 59067961 A2 19840417 Showa, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-178172 19821009.
AB Therapeutic implantable tubes contg. enzymes are prepd. for animals receiving prodrugs and for those with insufficient enzymes. Thus, semipermeable tubes, made of Spectrapor with silicone rubber caps, contg. cytosine deaminase [9025-05-2] were imbedded in brain ***tumors*** in dogs. I.m. injection into these dogs of 5-fluorocytosine [2022-85-7] daily for 5 days prolonged the animal survival considerably.

L24 ANSWER 8 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1981:205244 Document No. 94:205244 Regulation of nitrogen metabolism in Escherichia coli. Tyler, Bonnie; Bloom, Fredric; Pahel, Greg (Merck, Sharp Dohme Res. Lab., Rahway, NJ, USA). Glutamine: Metab., Enzymol., Regul., [Proc. Int. Symp.], Meeting Date 1979, 69-78. Editor(s): Mora, Jaime; Palacios, Rafael. Academic: New York, N. Y. (English) 1980. CODEN: 45MFAS.

AB A rare revertant of a GlnF mutant always synthesizes a high level of glutamine synthetase (GS) in glnF strains. The mutation (gln-501) responsible for this phenotype maps in the glnA region. However, when the gln-501 mutation was transferred into a GlnF+ strain, the regulation of formation of GS was very similar to that obsd. in wild-type strains. The high level of GS produced by strains carrying the gln-501 mutation is independent of the glnF allele and is expressed in cells devoid of the glnF-product. Since this mutation resulted in high levels of GS regardless of the presence of the glnF product, the role of the glnF product in N regulation of gene expression could be examd. in both GlnF+ and GlnF- strains which contained high levels of GS during N-limited growth. The glnF product is apparently necessary for N regulation of gene expression in E. coli. Expts. with a glnFtsmutant of Klebsiella pneumoniae also support this notion. Two classes of E. coli mutants altered in GS regulation due to insertion of phage Mu in the glnA region were isolated. One class was Gln- and devoid of GS polypeptide. The other class was Gln+ but did not utilize a variety of compds. as the sole source of N (Reg- phenotype). This latter class produced, in either a GlnF+ or GlnF- background, a low level of GS regardless of the availability of N and therefore suppressed the Gln- phenotype of GlnF mutants. Biochem. anal. of the GS in the Reg- strains together with complementation anal. between the Mu insertions in the Reg and glnA::Mu strains strongly suggests that another gene, glnG, is tightly linked to glnA and is necessary for N regulation of GS synthesis in E. coli. In this organism, synthesis of GS was also stimulated by C/energy limitation by a mechanism which is independent of glnF, glnG, and the adenylylation state of GS.

L24 ANSWER 9 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1979:590977 Document No. 91:190977 ***Histidase*** and urocanase activity in transplanted ***tumors*** in the liver and blood serum of ***tumor*** -bearing animals. Khachatryan, A. G.; Shukuryan, S. G.; Galstyan, D. A.; Saakyan, T. Kh. (Inst. Rentgenol. Onkol., Yerevan, USSR). Zhurnal Eksperimental'noi i Klinicheskoi Meditsiny, 19(1), 46-50 (Russian) 1979. CODEN: ZKMAAX. ISSN: 0514-7484.
AB The activities of ***histidase*** and urocanase was investigated in 10 exptl. ***tumors*** of rats and mice and in the blood serum and liver of ***tumor*** -bearing animals. The enzyme activities were found in the liver and serum of the ***tumor*** -bearing animals irresp. of histol. structure of the ***tumors*** and in hepatogenous ***tumors*** . In other types of ***tumors*** , the activities were absent.

L24 ANSWER 10 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1979:483431 Document No. 91:83431 Effect of simple chloroethylamines on the activity of some enzymes under experimental conditions. Shukuryan, S. G.; Chil-Akopyan, L. A.; Saakyan, T. Kh.; Khachatryan, A. G. (USSR). Mater. Nauchn. Konf., Posvyashch. 60 Godovshchine Velikogo Oktyabrya 30-Letiyu Organ. Arm. Inst. Rentgenol. Onkol., 17th, 199-203. Editor(s): Sedgaryan, M. A. Inst. Rentgenol. Onkol. im. Prof. V. A. Fanardzhyana: Yerevan, USSR. (Russian) 1977. CODEN: 40RZAC.
AB In rats bearing sarcoma 45 or M1 injected 5-10-times (rate and dose not indicated) with nor-HN2 [334-22-5], the serum activities of hexokinase [9001-51-8] and lactate dehydrogenase [9001-60-9] decreased by .apprx.50% below and ATPase [9000-83-3] activity in blood, liver, and ***tumor*** tissue increased by 70-190% above those of untreated ***tumor*** -bearing rats. ***Histidase*** [***9013-75-6***] and urocanase [9014-58-8] activities in serum decreased 2-3-fold and in liver increased by 20-50%. Thus, the drug apparently affects carbohydrate and energy metab. of liver and ***tumor*** tissue. The detn. of ***histidase*** and urocanase is suitable for the monitoring of liver damage during the treatment.

L24 ANSWER 11 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1977:118949 Document No. 86:118949 Blood enzyme spectrum in ***cancer*** and precancerous diseases of the stomach. Shukuryan, S. G.; Khachatryan, A. G. (Inst. Rentgenol. Onkol., Yerevan, USSR). Zhurnal Eksperimental'noi

i Klinicheskoi Meditsiny, 16(4), 71-7 (Russian) 1976. CODEN: ZKMAAX. ISSN: 0514-7484.

AB In patients with stomach ***cancer*** the serum activities of hexokinase, ***histidase*** , and urokinase were higher than those in patients with stomach ulcer; in normal subjects and in patients with chronic gastritis the enzymes were absent. The serum activities of aspartate and alanine aminotransferases, alk. phosphatase, and amidase increased in the sequence: normal subjects < patients with chronic gastritis < stomach ulcer < stomach ***cancer*** . In ***cancer*** the levels of all the enzymes were pos. correlated with the stage of the disease.

L24 ANSWER 12 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

1976:26654 Document No. 84:26654 Decrease of epidermal ***histidase*** activity by ***tumor*** -promoting phorbol esters. Colburn, Nancy H.; Lau, Shigeko; Head, Rebecca (Med. Sch., Univ. Michigan, Ann Arbor, MI, USA). Cancer Research, 35(11, Pt. 1), 3154-9 (English) 1975. CODEN: CNREA8. ISSN: 0008-5472.

GI For diagram(s), see printed CA Issue.

AB Application of 12-O-tetradecanoylphorbol 13-acetate (I) [16561-29-8] to hairless mouse skin at doses active in ***tumor*** promotion (1.7-17 nmoles/application) produced dose-dependent decreases in epidermal ***histidase*** [***9013-75-6***] specific activity at 19 hr posttreatment. The onset of the decrease occurred at 12 hr, with recovery to control level by 5 days, showing kinetics similar to those obtained for stimulation of DNA synthesis. This decrease in ***histidase*** could not be attributed to a general inhibition of sol. protein synthesis or to the appearance of an inhibitor of ***histidase*** activity. The strong promoter I produced a greater ***histidase*** decrease than did the moderate promoter and mitogen, 12,13-didecanoylphorbol [24928-17-4], at equimolar dose, while phorbol [17673-25-5], a nonpromoter and nonmitogen, produced no effects on ***histidase*** . The relation of this ***histidase*** depression to ***tumor*** promotion and not initiation is further indicated by the finding that (a) Tween 60, a structurally unrelated ***tumor*** promoter, also produced a decrease in ***histidase*** ; and (b) the ***tumor*** initiators, urethan and 9,10-dimethylbenz(a)anthracene, had no effect on ***histidase*** activity.

L24 ANSWER 13 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

1973:535041 Document No. 79:135041 Lipotrope-dependent increase of ***histidase*** and urocanase in the livers of choline-deficient rats and in the Reuber H-35 transplanted heptoma. Petri, W. A., Jr.; Poirier, L. A.; Morris, H. P. (Natl. Cancer Inst., Bethesda, MD, USA). Biochimica et Biophysica Acta, 321(2), 681-4 (English) 1973. CODEN: BBACAQ. ISSN: 0006-3002.

AB The administration of choline to choline-deficient rats led to significant increases in the hepatic levels of ***histidase*** (EC 4.3.1.3) and urocanase (EC 4.2.1.49). High dietary levels of methionine and choline had no significant effect on the levels of ***histidase*** and urocanase in the livers of chow-fed rats. High dietary levels of methionine, choline, and vitamin B12, either alone or in combination, did not alter the levels of ***histidase*** and urocanase in the livers of rats bearing the Reuber H-35 transplated hepatoma. A chow diet contg. elevated levels of methionine, choline, and vitamin B12 led to marked increases in the activities of ***histidase*** and urocanase in the H-35 hepatoma. These results indicate that the altered control of ***histidase*** and urocanase seen in hepatomas may result from the abnormal metab. of methyl donors generally seen in ***tumors*** .

L24 ANSWER 14 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

1973:403523 Document No. 79:3523 Change of ***histidase*** activity in the livers of animals with ***tumors*** . Risin, S. A. (Minsk. Med. Inst., Minsk, USSR). Biokhim. Patokhimiya Obmena Veshchestv Mekh. Ego Regul., 98-102. Editor(s): Merezhinskii, M. F. "Belarus": Minsk, USSR. (Russian) 1971. CODEN: 26MTAL.

AB The activity of ***histidase*** (I, EC 4.3.1.3) was 1.5-fold higher in

the liver of female than of male mice. In mice inoculated with ascitic hepatoma 22a or with Ehrlich's ascitic ***carcinoma*** , the activity of I in the liver was lowered.

L24 ANSWER 15 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1972:497522 Document No. 77:97522 Hepatic activities of 1-carbon enzymes during the chronic administration of diethylnitrosamine, 2-acetylaminofluorene, and N,N-dimethyl-4-aminoazobenzene to rats. Poirier, Miriam C.; Poirier, Lionel A.; Lepage, Raymond (Inst. Cancer Montreal, Hop. Notre-Dame, Montreal, QC, Can.). Cancer Research, 32(6), 1104-7 (English) 1972. CODEN: CNREA8. ISSN: 0008-5472.
AB Chronic administration to rats of either an hepatocarcinogen (diethylnitrosamine [55-18-5], 2-acetylaminofluorene (I) [53-96-3], or N,N-dimethyl-4-aminoazobenzene (II) [60-11-7]) or a choline [62-49-7]-deficient diet decreased the hepatic levels of 5 enzymes involved in the synthesis of H4-folate formyl derivs.: ***histidase*** (EC 4.3.1.3) [***9013-75-6***], urocanase [9014-58-8], formiminoglutamic acid transferase (EC 2.1.2.5) [9032-83-1], formylase (EC 6.3.4.3) [9023-66-9], and methylene-H4-folate dehydrogenase (EC 1.5.1.5) [9029-14-5]. The relations between the hepatocarcinogens, Me donors, and 1-C compd. metabolism were discussed.

L24 ANSWER 16 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1972:473506 Document No. 77:73506 Enzymology of the formation and interconversion of labile 1-carbon groups in five hepatomas and in Walker ***tumor*** 256. Lepage, Raymond; Poirier, Lionel A.; Poirier, Miriam C.; Morris, Harold P. (Inst. Cancer Montreal, Hop. Notre-Dame, Montreal, QC, Can.). Cancer Research, 32(6), 1099-103 (English) 1972. CODEN: CNREA8. ISSN: 0008-5472.
AB The levels of ***histidase*** , urocanase, formiminoglutamic acid transferase, dihydrofolate reductase, serine hydroxymethylase, N5,10-methylenetetrahydrofolate dehydrogenase, and formylase, all involved in the metabolism of C1 and related compds., were detd. in the cytoplasmic fractions of 5 rat hepatomas, Walker ***tumor*** 256, and livers of ***tumor*** -bearing rats. The hepatomas studied included the Novikoff, H-35, and Morris 7800, 7777, and 5123D hepatomas. The activities of virtually all enzymes studied were significantly decreased in hepatomas in comparison to corresponding activities in livers of ***tumor*** -bearing rats. The hepatoma levels of formiminoglutamic acid transferase and serine hydroxymethylase never exceeded 7 and 41%, resp., the corresponding enzyme levels found in host liver. The levels of ***histidase*** , urocanase, and dihydrofolate reductase were also significantly lower in all hepatomas studied than in livers of ***tumor*** -bearing rats. The levels of formylase in the 5123D hepatoma and of N5,10-methylenetetrahydrofolate dehydrogenase in hepatoma H-35 were comparable to the levels in livers of ***tumor*** -bearing rats. In all other hepatomas studied the levels of these two enzymes were lower than in the host livers. With the exception of serine hydroxymethylase, the activities of all enzymes studied were similar in the two rapidly growing ***tumors*** , the Novikoff hepatoma and Walker carcinosarcoma 256. No other correlations could be observed between the growth rates of ***tumors*** studied and the levels of any enzymes investigated. The results are consistent with an overall decrease in both the C1 and tetrahydrofolate moieties of the labile C1 pool of ***tumors*** and with a decreased interconversion of the metabolically labile formyl and hydroxymethyl groups.

L24 ANSWER 17 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1972:23640 Document No. 76:23640 Enzyme patterns in a group of transplantable mouse hepatomas of different growth rates. Bresnick, E.; Mayfield, E. D., Jr.; Liebelt, A. G.; Liebelt, R. A. (Dep. Pharmacol., Baylor Coll. Med., Houston, TX, USA). Cancer Research, 31(6), 743-51 (English) 1971. CODEN: CNREA8. ISSN: 0008-5472.
GI For diagram(s), see printed CA Issue.
AB A series of transplantable hepatomas which arose spontaneously in normal mice or in mice treated with gold thioglucose, urethan, or 3-methylcholanthrene (I), was tested for the extent of deviation of the

hepatoma enzymic activities from those of normal liver. The growth rates of these hepatomas varied from 21 to 211 days. Deoxythymidine kinase and aspartate transcarbamylase activities correlated to some extent with the growth rate of these hepatomas. Threonine-serine dehydrase, ***histidase*** , and carbamylphosphate synthetase activities were almost undetectable in all the hepatomas, while uracil reductase was present in detectable amts. in only 2 of the hepatomas.

L24 ANSWER 18 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1970:118716 Document No. 72:118716 Action of ***tumor*** inhibitory pyrazolotriazines on Klebsiella aerogenes. II. Inhibition by 6-haloacetyl-4,6-dihydro-3-methyl-4-methylenepyrazolo[3,2-c]-as-triazine and its antagonism. Arden, Gillian M.; Grant, D. J. W.; Partridge, M. W. (Dep. Pharm., Univ. Nottingham, Nottingham, UK). Biochemical Pharmacology, 19(1), 71-89 (English) 1970. CODEN: BCPCA6. ISSN: 0006-2952.

GI For diagram(s), see printed CA Issue.

AB The action of the following ***tumor*** inhibitory 6-acyl-3-methyl-4-methylenepyrazolo[3,2-c]-as-triazines (I) (6-acyl-DMPT) against the growth of K. aerogenes NCTC418 and its specific protein synthesis has been studied at concns. up to their rather low soly. limits: 6-acetyl-, 6-fluoroacetyl-, 6-chloroacetyl-, 6-iodoacetyl- and 6-dichloroacetyl-DMPT. The solys. of the compds. and the specific rates of hydrolysis of their 6-acyl bonds have been detd. 6-Iodoacetyl-DMPT inhibited growth and the synthesis of .beta.-galactosidase and histidine ammonia-lyase. In the absence of growth 6-iodoacetyl- and 6-chloroacetyl-DMPT inhibited the induction of .beta.-galactosidase synthesis without delay; cysteine, glutathione, and 6-mercaptopurine antagonized these effects, which suggests that the inhibitors alkylate thiol groups. The specific rate of alkylation of cysteine by 6-iodoacetyl-DMPT was 120 times that by iodoacetic acid and 1500 times the specific rate of hydrolysis of 6-iodoacetyl-DMPT to iodoacetic acid. The intact 6-acyl bond was essential for the high biol. and chem. activity of 6-iodoacetyl-DMPT. 6-Dichloroacetyl-DMPT had a low activity and was rapidly hydrolyzed. 6-Fluoroacetyl-DMPT and 6-acetyl-DMPT were inactive. The above 6-haloacetyl-DMPT derivs. did not act as concurrent blockin g agents. No alteration in the levels of DNA, RNA, and total protein in growing or nondividing bacteria actively synthesizing .beta.-galactosidase were ob sd. in their presence.

L24 ANSWER 19 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1970:108226 Document No. 72:108226 Action of ***tumor*** inhibitory pyrazolotriazines on Klebsiella aerogenes. I. Inhibition by 3,4-dimethylpyrazolo[3,2-c]-as-triazine and its antagonism by histidine. Arden, Gillian M.; Grant, D. J. W.; Partridge, M. W. (Dep. Pharm., Univ. Nottingham, Nottingham, UK). Biochemical Pharmacology, 19(1), 57-69 (English) 1970. CODEN: BCPCA6. ISSN: 0006-2952.

AB The action of the ***tumor*** inhibitor, 3,4-dimethylpyrazolo[3,2-c]-as-triazine (DMPT), on the bacterium Klebsiella aerogenes NCTC 418 has been studied. DMPT at concns. of the order 1 g/l. (6 mM) inhibited the growth of K. aerogenes and inhibited the induction of .beta.-galactosidase in non-dividing cell suspensions, but did not affect the levels of DNA, RNA, and total protein during growth. The purine analogs 6-mercaptopurine and 8-azaguanine gave other, different effects. The inhibition by DMPT of .beta.-galactosidase induction was antagonized by histidine but not by other amino acids or by purines. DMPT also inhibited the induction of histidine ammonialyase and the inhibition was antagonized by histidine. The activity of histidine ammonialyase (Km = 25 mM) was inhibited non-competitively by DMPT (Ki = 2.7 mM) and inhibition was total with DMPT at 3.4 mM. The effects of DMPT are discussed and it is concluded that DMPT does not act as a purine analog but interferes with the metabolism of or with an essential function of histidine.

L24 ANSWER 20 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1969:85673 Document No. 70:85673 Metabolic adaptations during hepatocarcinogenesis. III. Dietary induction of some enzymes of amino acid metabolism during azo dye feeding. Poirier, Lionel A.; Pitot, Henry

C. (Med. Sch., Univ. of Wisconsin, Madison, WI, USA). Cancer Research, 29(2), 475-80 (English) 1969. CODEN: CNREA8. ISSN: 0008-5472.

AB N,N-Dimethyl-3'-methyl-4-aminobenzene (I) (0.054% of the diet) was fed to adult male rats (170-190 g.) for 0, 2, 4, or 5 weeks, followed by 5 days on a protein-free diet prior to sacrifice. This treatment produced, at 2-3 weeks, a loss of the metabolic responses of ornithine-.delta.-transaminase (II) and ***histidase*** to dietary induction by casein hydrolyzate (2 ml./100 g.) force-fed at 6, 12, and 18 hrs. before sacrifice, did not alter the induced responses of tryptophan pyrrolase or tyrosine-.alpha.-ketoglutarate-transminase (III), and decreased the induced level of serine dehydratase (IV). Chronic administration of the carcinogen also decreased the levels of ***histidase*** and II. N,N-Dimethyl-2-methyl-4-aminoazobenzene (V) (0.054% of the diet) fed for 3-5 weeks decreased the induced levels of III and IV only. Rats fed either of the azo dyes showed no wt. gain during the 5 week period, while the av. wt. of controls increased from 187 to 276 g. The liver wts. increased from an av. of 4.59-6.37 g. in controls, to 8.16 g. in rats fed V, but to only 5.70 g. in rats fed I. The liver wt. following casein hydrolyzate intubation increased in controls but not in rats fed either carcinogen.

L24 ANSWER 21 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

1969:85671 Document No. 70:85671 Metabolic adaptions during hepatocarcinogenesis. I. Dietary induction of some enzymes of amino acid metabolism during 2-acetylaminofluorene feeding. Poirier, Lionel A.; Pitot, Henry C. (Med. Sch., Univ. of Wisconsin, Madison, WI, USA). Cancer Research, 29(2), 464-9 (English) 1969. CODEN: CNREA8. ISSN: 0008-5472.

AB 2-Acetylaminofluorene (2-AAF) (0.03% of the diet) was fed to adult male rats (170-190 g.) in a grain diet for 0, 2, 4, or 5 weeks, followed by 5 days on a semisynthetic protein-free diet prior to sacrifice. This treatment produced, at 4 or 5 weeks, a loss of the adaptive responses of ornithine-.delta.-transaminase and ***histidase*** to dietary induction by casein hydrolyzate (2 ml./100 g.), force-fed at 6, 12, and 18 hrs. before sacrifice, marked decreases in the induced levels of tryptophan pyrrolase and serine dehydratase, and an increase in the induced level of tyrosine-.alpha.-ketoglutarate trans-aminase compared with controls. Rats fed 2-AAF gained only 85 g. over the 5-week period, while controls gained 148 g. Rats fed 2-AAF for 2 weeks showed no increase in liver wt. 18 hrs. after the multiple intubation of casein hydrolyzate, while controls showed a 15% increase in liver wt. The modification of response of these liver enzymes to the administration of casein hydrolyzate resembles the altered control mechanisms seen in hepatocellular ***carcinoma*** .

L24 ANSWER 22 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

1968:494489 Document No. 69:94489 ***Histidase*** activity in hyperplastic and neoplastic rat epidermis and liver. Baden, Howard P.; Sviokla, Sylvester; Mittler, Brant; Pathak, Madhu A. (Massachusetts Gen. Hosp., Boston, MA, USA). Cancer Research, 28(8), 1463-8 (English) 1968. CODEN: CNREA8. ISSN: 0008-5472.

AB ***Histidase*** (I) activity, present in rat epidermis 3 days prior to birth, rose to a peak value at 5 days after birth and then decreased to normal adult values within 2 weeks. I activity in regenerating adult epidermis showed a pattern similar to that of normal tissue. Benign epidermal ***tumors*** induced in rabbits with transplantable ***tumor*** tissue had normal I activity, whereas methylcholanthrene-induced malignant ***tumors*** had none. Similar patterns of I activity were observed in rat liver. Absence of enzyme activity in malignant ***tumors*** was due to an absence of I rather than to the presence of an inhibitor. A similar lack of enzyme in fetal tissue may be due to a repression of I synthesis, since the cells have the capacity to produce the enzyme.

L24 ANSWER 23 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

1967:103287 Document No. 66:103287 Urocanic acid in benign and malignant human epidermal ***tumors*** . Baden, Howard P.; Mittler, Brant; Sviokla, Sylvester; Pathak, Madhu A. (Harvard Med. Sch., Boston, MA, USA).

Journal of the National Cancer Institute (1940-1978), 38(2), 205-8 (English) 1967. CODEN: JNCIAM. ISSN: 0027-8874.

AB The presence of high histidine deaminase activity and the absence of urocanase resulted in the accumulation of urocanic acid in the epidermis. Benign epidermal ***tumors*** such as seborrheic keratoses and warts contained normal amts. of urocanic acid, whereas basal and squamous cell ***carcinomas*** had none or only trace quantities. This abnormality in malignant lesions is assocd. with normal amts. of histidine but an absence of ***histidase*** or urocanase. A chromatographic method has been proposed for the rapid screening of epidermal ***tumors*** .

L24 ANSWER 24 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

1966:450501 Document No. 65:50501 Original Reference No. 65:9475g-h Meaning of biochemical differences between normal and ***cancer*** cells. Potter, Van R. (Univ. of Wisconsin Med. School, Madison). DACWF Title, Volume Date 1964 17-25 (English) 1965. CODEN: 18IAAF.

AB The wide variations in the levels, inducibility, and repressibility of enzymes in the process of carcinogenesis could be essential or random. Essential alterations might occur in 2 or more genes. Glucose-6-phosphatase was found in liver parenchyma cells and in minimal deviation heptatoma but was absent in transplantable hepatoma. Tryptophan pyrrolase, ***histidase*** , and transaminases tend to occur in min. deviation hepatoma at levels that resemble newborn rat liver in the transplantation period between 7 and 21 days of age. The activity of threonine dehydrogenase is very low in host liver but high in the hepatoma, even when the protein-to-glucose ratio in the diet is low (Pitot, et al., CA 56, 3982h). Cholesterol synthesis from acetate-14C proceeds at a high level in rat hepatoma even with cholesterol-rich food (Siperstein and Fagan, CA 61, 11123c). 30 references.

L24 ANSWER 25 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

1966:406298 Document No. 65:6298 Original Reference No. 65:1185f-h,1186a Investigation of ***histidase*** in acute and chronic diseases of the liver. Kaletkina, L. G.; Lopatina, L. A. Aktulal'yne Vopr. Patol. Pecheni, Akad. Nauk Tadzh. SSR, Akad. Med. Nauk SSSR, Inst. Kraevoi Med., No. 3, 107-14 (Russian) 1965.

AB The Mardashev-Burobin modification (CA 57, 17006i) of the Tabor-Mehler method for the detn. of ***histidase*** (I) activity is suggested as a diagnostic and prognostic test for liver diseases. Enzyme activity is expressed in micromoles of urocanic acid produced by I during 1 hr. in 1 ml. of blood serum (.times. 102 for convenience). Investigation of human organs for I gave: liver 432, cardiac muscle 108, kidney 56, spleen 12, lungs, brain and intestines 0 micromoles urocanic acid/g. of tissue/hr., indicating that I is chiefly of hepatic origin. I in 20 controls ranged from 0 to 4 micromoles urocanic acid/ml./hr. (mean value 0.1 micromole). Elevated I was found in serums of all patients with liver disease. Highest values were obtained in 2 cases of ***carcinoma*** (8.8 and 19.4 micromoles urocanic acid/ml./hr.). Highest I values in examn. of more than 140 patients with acute and chronic liver diseases were obtained at the climax (3rd week) of epidemic hepatitis (mean value 7.5) and in active forms of chronic hepatitis (6.62) and cirrhosis of the liver (6.36). A sharp drop of I in mild forms of epidemic hepatitis was found after the 3rd week; more serious cases showed a sustained high level from the 2nd through the 5th weeks. Active forms of epidemic hepatitis were distinguishable from the inactive by a much higher I (6.36 vs. 1.66, resp.). In 17 patients with ulcerative colitis, 2 showed no elevated I, but the 15 severe cases gave high levels. Comparison of I with a histol. study of biopsy material disclosed a close relation between I and the degree of protein dystrophy of the parenchymal cells.

L24 ANSWER 26 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

1963:48662 Document No. 58:48662 Original Reference No. 58:8301f-h Comparative enzymology and cell origin of rat hepatomas. III. Some enzymes of amino acid metabolism. Pitot, Henry C.; Peraino, Carl; Bottomley, Richard H.; Morris, Harold P. (Univ. of Wisconsin, Madison). Cancer Research, 23, 135-42 (Unavailable) 1963. CODEN: CNREA8. ISSN: 0008-5472.

AB cf. CA 54, 25222a. Activities of several enzymes of amino acid metabolism

including tryptophan pyrrolase, threonine and serine dehydrases, proline oxidase, pyrroline-5-carboxylate reductase, tyrosine-.alpha.-ketoglutarate transaminase, and ***histidase*** were measured in host livers and a no. of minimal-deviation hepatomas. ***Tumors*** possessed substantial amts. of many of these enzymes, but no 2 possessed an identical enzyme pattern. The significance of a secondary site active in amino acid metabolism in the host- ***tumor*** relation of rats bearing minimal-deviation hepatomas is discussed.

L24 ANSWER 27 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1962:485232 Document No. 57:85232 Original Reference No. 57:17070b-c
Sulfhydryl groups and amino acid composition of liver histidine deaminase of normal and ***cancer*** -affected animals. Goryukhina, T. A.; Misheneva, V. S.; Parshin, A. N. (Inst. Onkol., Leningrad). Ukrains'kii Biokhimichnii Zhurnal (1946-1977), 34, 483-9 (Russian) 1962. CODEN: UBZHAZ. ISSN: 0372-3909.
AB Cat liver histidine deaminase (I) was more active than I of other animals; analysis showed that it contained less SH groups than the I of rabbit liver. An increase in the enzymic activity of I in rabbits with Brown-Pierce sarcoma was accompanied by a parallel increase in the no. of SH groups. Therefore, it was assumed that liver I activity depended basically upon the SH groups entering into the compn. of the I active center, and to some extent upon the purity of the enzyme prepn.

L24 ANSWER 28 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1962:14894 Document No. 56:14894 Original Reference No. 56:2813f-g
Comparative study of histidine deaminase properties in liver of normal and cancerous animals. Parshin, A. N.; Goryukhina, T. A.; Misheneva, V. S. (Inst. Oncol. Acad. Med. Sci. U.S.S.R., Leningrad). Ukrains'kii Biokhimichnii Zhurnal (1946-1977), 33, 514-22 (Unavailable) 1961. CODEN: UBZHAZ. ISSN: 0372-3909.
AB Tests were made with cats and rabbits free from ***cancer*** and rabbits having Brown-Pearce sarcoma. Results showed that liver histidine deaminase (I) activity was inhibited by ethylenediaminetetraacetate (II), p-chloromereuribenzoate (III), ferricyanide (IV) iodine, and hydroxylamine. I inhibition by II was counteracted by divalent metals and in particular by ions of Co, Zn, and Mn. Inhibiting effect of III was counteracted by cysteine, IV, iodine, and ascorbic acid. The results indicated that I and II are identical.

L24 ANSWER 29 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1959:114082 Document No. 53:114082 Original Reference No. 53:20482d-f Amino acid metabolism of Novikoff hepatoma. Auerbach, Victor H.; Waisman, Harry A. (Univ. of Wisconsin, Madison). Cancer Research, 18, 543-7 (Unavailable) 1958. CODEN: CNREA8. ISSN: 0008-5472.
AB Novikoff hepatoma did not contain the following enzyme systems: tryptophan peroxidase-oxidase, tyrosine transaminase, phenylalanine hydroxylase, threonine dehydrase, serine dehydrase, cysteine desulfhydrase, ***histidase*** , and p-hydroxyphenylpyruvic acid oxidase. Tryptophan peroxidase-oxidase, tyrosine-transaminase, and threonine dehydrase could not be induced in these ***tumors*** by administration of the resp. substrates. Novikoff hepatoma contained less glutamine synthetase and less arginase than did normal or adjacent liver, and about 4 times as much aspartic acid transcarbamylase. The results are discussed in terms of the deletion hypothesis of carcinogenesis.

L24 ANSWER 30 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1959:52087 Document No. 53:52087 Original Reference No. 53:9422e-g
Tryptophan peroxidase-oxidase, ***histidase*** , and transaminase activity in the liver of the developing rat. Auerbach, V. H.; Waisman, Harry A. (Univ. of Wisconsin, Madison). Journal of Biological Chemistry, 234, 304-6 (Unavailable) 1959. CODEN: JBCHA3. ISSN: 0021-9258.
AB cf. ***Cancer*** Research 18, 543(1958). The activities of tyrosine (.alpha.-ketoglutarate), phenylalanine (pyruvate), phenylalanine (.alpha.-ketoglutarate) transaminases, tryptophan peroxidase-oxidase, and ***histidase*** were detd. in the livers of rats of various ages from before birth to about 3 months of age. The 3 transaminase activities

appeared at birth. Both phenylalanine and tyrosine transaminases were high at birth but were lower by the 21st day. The tryptophan peroxidase-oxidase system could not be demonstrated in untreated animals before 12 days of age. Injection of tryptophan 5 hrs. before the animals were killed indicated that the animals synthesized small amts. of tryptophan peroxidase-oxidase during the period when this enzyme was not detected in untreated rats. ***Histidase*** activity was low from 1 to 16 days, but an increase followed which was more rapid in females than in males.

L24 ANSWER 31 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1953:42062 Document No. 47:42062 Original Reference No. 47:7082e-g Activity of histidine deaminase and urocaninase in rabbit liver during the development of Brown-Pierce ***tumors*** . Goryukhina, T. A. Doklady Akademii Nauk SSSR, 88, 317-20 (Unavailable) 1953. CODEN: DANKAS. ISSN: 0002-3264.

AB cf. C.A. 45, 7228e. Detn. of the deaminase (by vol. of NH3 liberated by the enzyme, after addn. of histidine, per unit time) and detn. of urocaninase (by difference in the amt. of NH3 displaced by NaOH and Na2CO3) showed that in cases of Brown-Pierce ***carcinoma*** the activity of these enzymes in the liver rises 4-5 fold over normal. Only a slight rise was noted with methylcholanthrene-induced ***tumors*** or in starving rabbits (cf. Tseitlin, Byull. Eksptl. Biol. Med. 25, 380(1948)). The total content of carnosine and anserine is about 10% of normal, which indicates a deficiency in histidine in cases of the Brown-Pierce ***tumors*** . Introduction of histidine serves to raise the concn. of these peptides, thus supporting this hypothesis, but it does not affect the development of the ***tumors*** .

L24 ANSWER 32 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1953:19975 Document No. 47:19975 Original Reference No. 47:3460a-c Normal and pathological histidine metabolism in human subjects. Baur, H. (Med. Univ. Klinik, Basel, Switz.). Zeitschrift fuer die Gesamte Experimentelle Medizin, 119, 143-94 (Unavailable) 1952. CODEN: ZGEMAZ. ISSN: 0372-8722.

AB The normal imidazole (I) content of the urine of healthy subjects varied between 10 and 80 mg. %, av. 28 mg. %, calcd. as histidine (II). Amts. up to 175, 95, and 75-80 mg. % occurred in cases of liver cirrhosis or dystrophy, ***virus*** hepatitis, and advanced exsudative pleuritis, resp. The av. I was 47 and 62 mg. % in 10 ***cancer*** cases and 20 pregnancy cases, resp. Oral intake of more than 250 mg./kg. body wt. l-II increased urinary I. Oral intake of d-II gave an av. recovery in the urine of 76% as I. The ***histidase*** activity in livers without primary parenchymal damage was equiv. to 4-20 ml. 0.02 N NH4OH (cf. Edlbacher, et al., C.A. 37, 401.9); larger values were found in cases of liver damage. Blood I in healthy subjects averaged 4.2 mg. %. After intravenous l- or d-II, blood II decreased rapidly, but with some delay for the d isomer. Slow intravenous infusion of l- or d-II did not affect the plasma histamine level; rapid injection (1 min.) gave a 3-4 fold increase.

L24 ANSWER 33 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1951:42124 Document No. 45:42124 Original Reference No. 45:7228d-f Synthesis of carnosine and anserine in development of experimental ***cancer*** of Brown-Pearce type in rabbits. Parshin, A. N.; Goryukhina, T. A. (Oncology Inst., Leningrad). Doklady Akademii Nauk SSSR, 77, 665-7 (Unavailable) 1951. CODEN: DANKAS. ISSN: 0002-3264.

AB Rabbits grafted with a cancerous growth (in the muscle tissue) show a 5-6-fold decrease in the amts. of anserine and carnosine in the muscle, so that analyses must be done on concd. exts. The decrease is accompanied by a considerable increase of activity of histidine deaminase and urocaninase. The enhanced destruction of histidine prevents normal formation of the 2 dipeptides. Fasting normal rabbits have some 4 times more anserine and carnosine in their muscle tissue than the ***cancer*** -infected specimens, so that the decline in the latter case cannot be wholly attributed to nutritional factors. Subcutaneous administration of histidine to cancerous rabbits leads to increase of the carnosine and anserine concns. to almost normal levels.

L24 ANSWER 34 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
1951:30390 Document No. 45:30390 Original Reference No. 45:5290f-h Enzyme content of benign and malignant liver ***tumors*** . I. Arginase and ***histidase*** . Viollier, G. (Med. Univ., Basel, Switz.). Verhandl. schweiz. Ver. Physiol. u. Pharmakol. C34-6,C37-9 From: Helv. Physiol. et Pharmacol. Acta 8, No. 2 (Unavailable) 1950.
AB Rats kept 20-50 weeks on a low-choline diet developed benign hepatic ***tumors*** , and rats fed dimethylaminoazobenzene (I) developed malignant hepatic ***tumors*** . Extrahepatic malignant ***tumors*** were developed in rats by subcutaneous injection of benzopyrene or methylcholanthrene. The av. arginase activity per unit protein was about half the control value in the ***tumor*** -free liver tissue of the I-treated animals which had developed ***tumors*** , and about 1/6 of the control value in the ***tumors*** of these animals. A marked change in arginase activity was not seen in the other exptl. groups, including I-treated animals which did not develop ***tumors*** . A slight rise in this activity in livers from choline-deficient animals was probably due to the high sulfhydryl content of their diet. The av. ***histidase*** activity per unit protein was lower in all the exptl. groups, as compared with their respective control groups, but was especially low in the I-treated animals, and was negligible in the hepatic ***tumors*** of these animals.

=> S L22 NOT L24
L25 15 L22 NOT L24

=> D 1-15 CBIB ABS

L25 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
2003:837370 Document No. 139:333972 Gene profiling methods of diagnosing potential for metastasis or developing hepatocellular ***carcinoma*** and of identifying therapeutic targets. Wang, Xin Wei; Ye, Qing-hai; Kim, Jin Woo (The Government of the United States of America, as Represented by the Secretary of the Department of Health and Human Services, USA). PCT Int. Appl. WO 2003087766 A2 20031023, 141 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US10783 20030404. PRIORITY: US 2002-PV370895 20020405.
AB The present invention relates to methods for diagnosing the metastatic potential of hepatocellular ***carcinoma*** (HCC) in HCC patients and methods for diagnosing the potential of developing HCC in patients with chronic liver diseases. A computer readable medium, a digital computer, and a system useful for such diagnosis are also provided. Further disclosed are methods for identifying potential therapeutic targets for treating metastasis in HCC patients and methods for preventing HCC in patients with chronic liver diseases. Based on UniGene (UG) database compiled by NCBI, two sets of gene clusters: Metastatic gene expression predictor correlated with the diagnosis of metastatic HCC and HCC gene expression predictor correlated with the diagnosis of patients likely to develop HCC, are identified by gene profiling method. Among them, osteopontin (OPN) and EpCAM (Epithelial Cell Adhesion Mol., also known as TACSTD1, encoded by gene GA733-2) are used as the major therapeutic targets (both sequences claimed but not provided). In addn., the invention provides methods for inhibiting metastasis in HCC patients by suppressing the function of one therapeutic target, osteopontin, and methods for preventing the development of HCC in patients with chronic liver diseases by suppressing the function of one therapeutic target, EpCAM. Pharmaceutical compns. contg. agents capable of inhibiting the functions of osteopontin or EpCAM are also disclosed.

L25 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
2003:696523 Document No. 139:229271 Signature genes expressed the lung during asthma or allergies and their use in predicting, diagnosing and treating asthma or allergies. Rothenberg, Marc Elliot; Zimmermann, Nives (USA). U.S. Pat. Appl. Publ. US 2003166562 A1 20030904, 36 pp. (English). CODEN: USXXCO. APPLICATION: US 2003-377998 20030228. PRIORITY: US 2002-PV361606 20020301.

AB Several genes are upregulated in the lung of asthma or allergy sufferers. Many of the genes up-regulated in asthma are involved in arginine metab. in the lung. Moreover, a set of 291 signature genes was found that can be used to indicate a patient's predilection for developing asthma or the patient's degree of suffering. Also, a set of 59 signature genes were found that indicate a patient's predilection for developing allergies. Many of the up-regulated genes relating to asthma were from the arginine metabolic pathway. Other genes, such as ADAM8, SPRR2A and SPRR2B were also strongly up-regulated in asthma. Treatment of asthma may be accomplished by administering compns. which decrease the levels of Arginase I, Arginase II, cationic amino acid transporter CAT2, or other arginase pathway members in the lung. Addnl., detection of altered levels of these proteins or the mRNA encoding them may be useful to diagnose the presence of asthma in a patient.

L25 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
2003:669428 Document No. 139:290067 Contribution of the MUC1 tandem repeat and cytoplasmic tail to invasive and metastatic properties of a pancreatic ***cancer*** cell line. Kohlgraf, Karl G.; Gawron, Andrew J.; Higashi, Michiyo; Meza, Jane L.; Burdick, Michael D.; Kitajima, Shinichi; Kelly, David L.; Caffrey, Thomas C.; Hollingsworth, Michael A. (Department of Pathology and Microbiology, Eppley Institute for Research in Cancer and Allied Diseases, University of Nebraska Medical Center, Omaha, NE, 68198-6805, USA). Cancer Research, 63(16), 5011-5020 (English) 2003. CODEN: CNREA8. ISSN: 0008-5472. Publisher: American Association for Cancer Research.

AB MUC1 is a polymorphic, highly glycosylated, type I transmembrane protein expressed by ductal epithelial cells of many organs including pancreas, breast, gastrointestinal tract, and airway. MUC1 is overexpressed and differentially glycosylated by adenocarcinomas that arise in these organs, and is believed to contribute to invasive and metastatic potential by contributing to cell surface adhesion properties [via the tandem repeat (TR) domain] and through morphogenetic signal transduction via the cytoplasmic tail (CT). The large extracellular TR of MUC1 consists of a heavily glycosylated, 20 amino acid sequence that shows allelic variation with respect to no. of repeats. This portion of MUC1 may directly mediate adhesive or antiadhesive interactions with other surface mols. on adjacent cells and through these interactions initiate signal transduction pathways that are transmitted through the CT. We investigated the contribution of the TR domain and the CT of MUC1 to the in vivo invasive and metastatic potential, and the gene expression profile of the human pancreatic ***tumor*** cell line S2-013. Results showed that S2-013 cells overexpressing full-length MUC1 displayed a less invasive and metastatic phenotype compared with control-transfected cells and cells expressing MUC1 lacking the TR domain or CT. Clonal populations were analyzed by cDNA array gene expression anal., which showed differences in the gene expression profiles between the different cell lines. Among the genes differentially expressed were several that encode proteins believed to play a role in invasion and metastasis.

L25 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
2003:511070 Document No. 139:64450 Prostate ***cancer*** diagnosis and outcome prediction by gene expression analysis. Golub, Todd R.; Febbo, Phillip G.; Ross, Kenneth N.; Sellers, William R. (Whitehead Institute for Biomedical Research, USA; Dana-Farber Cancer Institute, Inc.). PCT Int. Appl. WO 2003053223 A2 20030703, 151 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,

MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2002-US41209 20021220. PRIORITY: US 2001-PV343448 20011221.

AB Methods identifying prostate ***cancer*** , methods for prognosing and diagnosing prostate ***cancer*** , methods for identifying a compd. that modulates prostate ***cancer*** development, methods for detg. the efficacy of a prostate ***cancer*** therapy, and oligonucleotide microarrays contg. probes for genes involved in prostate ***cancer*** development are described. High-quality oligonucleotide-based expression data was obtained from 52 prostate ***tumors*** and 50 prostate samples lacking detectable ***tumor*** using Affymetrix human 95v microarrays contg. 12,600 total features for genes, ESTs, and controls. In particular, a 5-gene model of prostate ***cancer*** outcome prediction is provided based on platelet-derived growth factor receptor .beta., chromogranin A, and HOXC6 (which show increased expression in recurrent ***tumors***), while inositol triphosphate receptor type 3, and .beta.-galactoside sialotransferase show decreased expression in recurrent ***tumors*** .

L25 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

2002:285562 Document No. 137:61578 Expressed gene sets as markers for specific ***tumors*** . Ramaswamy, Sridhar; Golub, Todd B.; Tamayo, Pablo; Angelo, Michael (Whitehead Institute for Biomedical Research, USA; Dana-Farber Cancer Institute, Inc.). PCT Int. Appl. WO 2002024956 A2 20020328, 715 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-XB29287 20010919. PRIORITY: US 2000-PV233534 20000919; US 2001-PV278749 20010326; WO 2001-US29287 20010919.

AB Sets of genetic markers for specific ***tumor*** classes are described, as well as methods of identifying a biol. sample based on these markers. Total RNA was isolated from .apprx.300 human ***tumor*** and normal tissue specimens representing 30 individual classes of ***tumor*** or normal tissue, and cDNA produced using established mol. biol. protocols was hybridized to two high d. Affymetrix oligonucleotide microarrays (Hu6800FL and Hu35KsubA0). Raw expression data was combined into a master data set contg. the expression values for between 6800 and 16,000 genes expressed by each individual sample. A filter was applied to this data set which only allows those genes expressed at 3-fold above baseline and with an abs. difference in expression value of 100 to pass. By comparing the sets of genes which are expressed specifically in one class of ***tumor*** (e.g., pancreatic adenocarcinoma) vs. its accompanying normal tissue (e.g., normal pancreas), sets of genes were detd. which are specific to various ***tumors*** and their normal tissue counterparts. Also described are diagnostic, prognostic, and therapeutic screening uses for these markers, as well as oligonucleotide arrays comprising these markers. [This abstr. record is one of 4 records for this document necessitated by the large no. of index entries required to fully index the document and publication system constraints.].

L25 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

2002:283339 Document No. 137:230114 Gene expression correlates of clinical prostate ***cancer*** behavior. Singh, Dinesh; Febbo, Phillip G.; Ross, Kenneth; Jackson, Donald G.; Manola, Judith; Ladd, Christine; Tamayo, Pablo; Renshaw, Andrew A.; D'Amico, Anthony V.; Richie, Jerome P.; Lander, Eric S.; Loda, Massimo; Kantoff, Philip W.; Golub, Todd R.; Sellers, William R. (Department of Adult Oncology, Dana-Farber Cancer Institute, Harvard Medical School, Brigham and Women's Hospital, Boston, MA, 02115, USA). Cancer Cell, 1(2), 203-209 (English) 2002. CODEN:

CCAECI. ISSN: 1535-6108. Publisher: Cell Press.
AB Prostate ***tumors*** are among the most heterogeneous of ***cancers*** , both histol. and clin. Microarray expression anal. was used to det. whether global biol. differences underlie common pathol. features of prostate ***cancer*** and to identify genes that might anticipate the clin. behavior of this disease. While no expression correlates of age, serum prostate specific antigen (PSA), and measures of local invasion were found, a set of genes was identified that strongly correlated with the state of ***tumor*** differentiation as measured by Gleason score. Moreover, a model using gene expression data alone accurately predicted patient outcome following prostatectomy. These results support the notion that the clin. behavior of prostate ***cancer*** is linked to underlying gene expression differences that are detectable at the time of diagnosis.

L25 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
2001:828415 Document No. 137:89412 Detection of variations in the DNA methylation profile of genes in the determining the risk of disease. Berlin, Kurt; Piepenbrock, Christian; Olek, Alexander (Epigenomics A.-G., Germany). PCT Int. Appl. WO 2001077373 A2 20011018, 636 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (German). CODEN: PIXXD2. APPLICATION: WO 2001-XA1486 20010406. PRIORITY: DE 2000-10019058 20000406; WO 2001-DE1486 20010406.
AB The invention relates to an oligonucleotide kit as probe for the detection of relevant variations in the DNA methylation of a target group of genes. The invention further relates to the use of the same for detg. the gene variant with regard to DNA methylation, a medical device, using an oligonucleotide kit, a method for detg. the methylation state of an individual and a method for the establishment of a model for establishing the probability of onset of a disease state in an individual. Such diseases may be: undesired pharmaceutical side-effects; cancerous diseases; CNS dysfunctions, injuries or diseases; aggressive symptoms or relational disturbances; clin., psychol. and social consequences of brain injury; psychotic disorders and personality disorders; dementia and/or assocd. syndromes; cardiovascular disease, dysfunction and damage; dysfunction, damage or disease of the gastrointestinal tract; dysfunction, damage or disease of the respiratory system; injury, inflammation, infection, immunity and/or anastasis; dysfunction, damage or disease of the body as an abnormal development process; dysfunction, damage or disease of the skin, muscle, connective tissue or bones; endocrine and metabolic dysfunction, damage or disease; headaches or sexual dysfunction. This abstr. record is one of several records for this document necessitated by the large no. of index entries required to fully index the document and publication system constraints.

L25 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
2001:781102 Document No. 135:328746 Cloning, overexpression and therapeutic uses of bioactive histidine ammonia lyase from Corynebacteriaceae. Sethuraman, Natarajan; Roberts, Joseph; MaCallister, Thomas (ME Medical Enzymes A.-G., Switz.). PCT Int. Appl. WO 2001079469 A2 20011025, 98 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US12053 20010413. PRIORITY: US 2000-PV197770 20000414.
AB Histidine ammonia lyase isolated from Corynebacteriaceae can decrease serum histidine levels, induce accumulation of urocanic acid, and is not

inhibited by L-histidinol. A full-length gene and encoded amino acid sequences of histidine ammonia lyase from Corynebacteriaceae are disclosed. As a result, histidine ammonia lyases similar to the one isolated from Corynebacteriaceae are uniquely suitable for combination therapy with L-histidinol to treat histidine- and/or histamine-dependent pathologies, for example, infectious ***viruses*** , such as human Respiratory Syncytial ***Virus*** (RSV), Herpes Simplex ***Virus*** (HSV), and Human Immunodeficiency ***Virus*** (HIV), as well as ***cancers*** .

L25 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
1949:34648 Document No. 43:34648 Original Reference No. 43:6295g-h
Influence of alimentary fats on the development of ***tumors*** in rats deficient in choline. Viollier, G. Mitteilungen aus dem Gebiete der Lebensmitteluntersuchung und Hygiene, 40, 16-29 (French) 1949. CODEN: MGLHAE. ISSN: 0026-6841.
AB A review with literature references of dietetic influences on the formation of ***tumors*** in mice is given. Expts. with rats which are fed a choline-deficient diet indicate that alimentary fats have only a slight influence on the formation of adenoma of the liver. The activity of arginase and ***histidase*** is not reduced; but the I index of the hepatic fatty acids is higher than in animals receiving 20 mg. choline daily.

L25 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
1946:26028 Document No. 40:26028 Original Reference No. 40:5125g-i,5126a-b
Enzymic activity in primary and transplanted rat hepatoma. Greenstein, Jesse P.; Leuthardt, Florence M. (Natl. Cancer Inst., Washington, DC). Journal of the National Cancer Institute (1940-1978), 6, 211-17 (Unavailable) 1946. CODEN: JNCIAM. ISSN: 0027-8874.
AB cf. C.A. 38, 4306.1. Available data on the catalytic systems in primary rat hepatoma are surveyed and their activities compared with those of transplanted hepatoma 31, normal and regenerating liver, fetal liver, and liver of ***tumor*** -bearing rats. Components which alter when normal liver becomes neoplastic include arginase, catalase, alk. phosphatase, cystine desulfurase, dehydropeptidase II, succinic oxidase, cytochrome oxidase, cytochrome c, riboflavin,esterase, transaminase, glyoxylase, ***histidase*** , and the systems concerned with urea synthesis. Those which are unchanged in the primary hepatoma are acid phosphatase, the nucleodesaminases, adenosinetriphosphatase, over-all dehydrogenase systems, dehydropeptidase I, probably the nucleodepolymerases, amylase, creatine, and creatinine; of these, the 1st 4 mentioned may alter on subsequent transplantation. Arginase, catalase, alk. phosphatase, dehydropeptidase II, and the urea-synthesizing mechanisms show further change on transplantation of the primary hepatoma, while cystine desulfurase, succinic oxidase, cytochrome oxidase, cytochrome c, riboflavin, and esterase do not alter further. Fetal liver resembles transplanted hepatoma in level of enzymic activity. Certain components in the livers of ***tumor*** -bearing animals tend to alter in the direction which normal liver takes in the neoplastic transformation.

L25 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
1945:32635 Document No. 39:32635 Original Reference No. 39:5316e-f
Comparative activity of ***histidinase*** both in normal tissues and in malignant ***tumors*** . Zbarskii, I. B. Byulleten Eksperimental'noi Biologii i Meditsiny, 17(No. 6), 64-6 (Unavailable) 1944. CODEN: BEBMAE. ISSN: 0365-9615.
AB Malignant ***tumors*** (including liver ***tumors***) do not contain any ***histidinase*** . The activity of ***histidinase*** in the liver of human subjects does not change in ***cancer*** . In mice with injected ***carcinoma*** and sarcoma ***tumors*** , the ***histidinase*** was somewhat more active than in normal mice. The activity of the ***histidinase*** does not depend on sex and age. In mice its activity per wt. unit is several times greater than in human subjects.

L25 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

1945:32634 Document No. 39:32634 Original Reference No. 39:5316d-e
Examination of the respiration of liver tissue during formation in it of ***tumors*** provoked with o-aminoazotoluene. El'tsina, N. V. Byulleten Eksperimental'noi Biologii i Meditsiny, 17(No. 6), 60-4 (Unavailable) 1944. CODEN: BEBMAE. ISSN: 0365-9615.

AB o-Aminoazotoluene was used to promote malignant neoplasms in the liver. The chemically pure o-aminoazotoluene does not cause any change in the intensity of the oxidation processes in the tissue affected by it. The low level of oxidative processes is a property of the fully developed ***tumor*** cell. It can be assumed that the transformation of the normal cell into a ***tumor*** cell does not occur by changing the cell metabolism, but is based on processes of a different order.

L25 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
1939:65561 Document No. 33:65561 Original Reference No. 33:9433b-e
Biochemical study on the course of liver ***cancer*** induced by feeding dimethylaminoazobenzene. Masayama, Tatunori; Iki, Hidetane; Yokoyama, Tuneko; Hasimoto, Masaharu Gann, 32, 303-6 (Unavailable) 1938. CODEN: GANNA2. ISSN: 0016-450X.

AB Changes in chem. substances in the liver of rats were detd. during ingestion of dimethylaminoazobenzene, 1st in the initial stage with little hyperemia, 2nd in the stage of hypertrophy and 3rd in the stage of ***cancer*** production. ***Histidase*** is scarcely present in ***cancer*** tissue. The amt. of arginase is decreased in the ***cancer*** stage. The ascorbic acid content in the initial stage and stage of hypertrophy is increased, but it is decreased in the ***tumor*** stage. The glutathione in the liver is increased in the 1st stage. The highest value is found in the tissue next to the cancerous tissue. The ***tumor*** tissue has high glutathione content, but its necrotic portion has smaller glutathione content. In the initial stage, the free cholesterol is increased. In the stage of hypertrophy, the ester-cholesterol is increased, and in the ***tumor*** stage, the free cholesterol and ester-cholesterol show high values. In the blood plasma, cholesterol increase parallels the increase of cholesterol in the liver. In the stage of ***cancer*** production the increase of free cholesterol is greater than that of ester-cholesterol.

L25 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
1934:31659 Document No. 28:31659 Original Reference No. 28:3784e-g
Necrobiosis of ***tumor*** cells. Keil, W. Archiv fuer Experimentelle Pathologie und Pharmakologie, 167, 338 From: Physiol. Abstracts 18, 302. (Unavailable) 1932. CODEN: AEXPBL. ISSN: 0365-2041.

AB By means of multiple implants the metabolic peculiarities of rat sarcoma were investigated before and after x-ray treatment. Respiration and glucolysis and the following tissue enzymes were studied successfully: arginase, ***histidase*** , tissue protease, phosphatase, oxidoreductase. The enzyme activity was unchanged between 2 and 72 hrs. after a dose of x-rays sufficient to inhibit growth. The enzyme reactions are, therefore, only secondary characteristics of ***tumor*** growth and not, as previously supposed, primary causes of the malignancy. This explains the failure of specific metabolic poisons, which inhibit ***tumor*** glucolysis. No evidence was found for the presence of deaminases, decarboxylases, or proline- or oxyproline-splitting enzymes in normal or necrobiotic ***tumors*** . The inorg. phosphate content of ***tumors*** was unaffected by x-ray irradiation.

L25 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
1933:38658 Document No. 27:38658 Original Reference No. 27:3488e-g
Arginase. IX. The regulation of arginase action by oxygen. Edlbacher, S.; Kraus, J.; Leuthardt, F. Z. physiol. Chem., 217, 89-104 (Unavailable) 1933.

AB cf. C. A. 26, 3524. The arginase reaction in exts. and suspensions of organs is irreversibly inhibited by O2. Glycerol protects the enzyme from damage by O2, as do also N2, H2 and CO2 which show an apparent activation. The seemingly specific activation of arginase by cysteine, glutathione and FeII salts is merely a removal of O2 and is essentially equiv. to the O2 displacement by inert gases. As a working hypothesis the suggestion is

made that O2 acceptors present in the living cell may regulate the hydrolytic breakdown of arginine. Such a process would be the first instance of combined oxidative and hydrolytic cleavage of amino acid, analogous to the Pasteur-Meyerhof reaction. The pH activity curve of ***tumor*** arginase from mouse ***carcinoma*** shows an optimum at the neutral point. Under anaerobic conditions or in the presence of SH derivs. this optimum is shifted and becomes identical with that of normal arginase. By providing anaerobic reaction conditions it is possible to activate ***tumor*** arginase 400-600%, in contrast to normal arginase which can thus be activated only 50% at the most. ***Histidase*** , in contrast to arginase, does not show this characteristic property of activation under anaerobic conditions. Arginase is strongly inhibited by heavy metals in 0.0001 M concn.

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=> S L12 NOT (L20,L21,L22,L23,L24,L25)
L26         80 L12 NOT ((L20 OR L21 OR L22 OR L23 OR L24 OR L25))

=> S L26 RANGE=(1960-2000)
L27         64 L12 NOT ((L20 OR L21 OR L22 OR L23 OR L24 OR L25))

=> D 1-64 TI

=> D L27 3,8,11,34,37,52,53,57,58 CBIB ABS

L27  ANSWER 3 OF 64  CAPLUS  COPYRIGHT 2004 ACS on STN
1998:518905  Document No. 129:199775  Crystallization and preliminary x-ray
     studies of Pseudomonas putida histidine ammonium-lyase.  Teo, Bena; Kidd,
     Richard D.; Mack, Joe; Tiwari, Anita; Hernandez, Dennis; Phillips, Allen
     T.; Farber, Gregory K. (108 Althouse Laboratory, Department of
     Biochemistry and Molecular Biology, The Pennsylvania State University,
     University Park, PA, 16802, USA).  Acta Crystallographica, Section D:
     Biological Crystallography, D54(4), 681-683 (English) 1998.  CODEN:
     ABCRE6.  ISSN: 0907-4449.  Publisher: Munksgaard International Publishers
     Ltd..
AB   Histidine ammonium-lyase from P. putida was expressed in Escherichia coli,
       ***purified***  to homogeneity, and crystd. by the vapor-diffusion method
     using polyethylene glycol 3350 as the precipitant.  The crystals, which
     diffract to at least 2.5 .ANG. resoln., exhibit the symmetry of space
     group P212121, with unit-cell parameters a = 89.7, b = 138.2 and c = 164.8
     .ANG..  The asym. unit contains a tetramer, and the crystals have a Vm
     value of 2.41 .ANG.3 Da-1.

L27  ANSWER 8 OF 64  CAPLUS  COPYRIGHT 2004 ACS on STN
1994:72058  Document No. 120:72058  ***Purification***  and
     characterization of Pseudomonas putida histidine ammonia-lyase expressed
     in Escherichia coli.  Hernandez, Dennis; Phillips, Allen T. (Dep. Mol.
     Cell Biol., Pennsylvania State Univ., University Park, PA, 16802, USA).
     Protein Expression and Purification, 4(5), 473-8 (English) 1993.  CODEN:
     PEXPEJ.  ISSN: 1046-5928.
AB   Histidine ammonia-lyase (I) from Pseudomons putida PRS1 contains a
     catalytically important electrophilic center reported to be
     dehydroalanine.  Little is known about the origin of this group or its
     linkage to the protein.  To initiate structural studies on this enzyme, P.
     putida I was ***purified*** from an E. coli high-expression clone in
     which the I gene (hutH) was under the control of the phage .lambda. PL
     promoter on a plasmid vector.  In this clone, 6-10% of the sol. cell
     protein after heat induction was I and .apprx.200 mg of 95% pure I could
     be obtained from 120 g wet wt. of cells in 40-60% yield.  The
     overexpressed protein was identical to P. putida I in native mol. wt. (220
     kDa), subunit compn. (4 identical subunits of 53 kDa each), affinity for
     L-histidine (Km = 5.3 mM at pH 9.0), and sensitivity to inactivation by
     cyanide and bisulfite.  The N-terminal amino acid sequence was in
     agreement with the DNA-predicted sequence, indicating proper translational
     initiation.  These features make this enzyme an appropriate candidate for
     protein structure investigations regarding the nature of the electrophilic
     center and its assocn. with the protein.
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L27 ANSWER 11 OF 64 CAPLUS COPYRIGHT 2004 ACS on STN
1989:610888 Document No. 111:210888 The ***purification*** and characterization of histidine ammonia-lyase from Klebsiella aerogenes. Fuchs, Ryszard S. (Univ. Leeds, Leeds, UK). 229 pp. Avail. Univ. Microfilms Int., Order No. BRD-85263 From: Diss. Abstr. Int. B 1989, 50(2), 539 (English) 1987.
AB Unavailable

L27 ANSWER 34 OF 64 CAPLUS COPYRIGHT 2004 ACS on STN
1975:455131 Document No. 83:55131 Crystalline L-histidine ammonia-lyase of Achromobacter liquidum. Crystallization and enzymic properties. Shibatani, Takeji; Kakimoto, Toshio; Chibata, Ichiro (Res. Lab. Appl. Biochem., Tanabe Seiyaku Co. Ltd., Osaka, Japan). European Journal of Biochemistry, 55(1), 263-9 (English) 1975. CODEN: EJBCAI. ISSN: 0014-2956.
AB Cryst. L-histidine ammonia-lyase of A. liquidum was prepd. with a 24% recovery of the activity. The specific activity of the pure enzyme (63 .mu.mole of urocanic acid/min/mg) was similar to those reported for the enzyme from other sources. The ***purified*** enzyme appeared to be homogeneous by anal. disc electrophoresis and isoelec. focusing. The mol. wt. detd. by Sephadex G-200 gel filtration was 200,000. The optimum pH was 8.2, and the optimum temp. was 50.degree.. The enzyme showed strict specificity to L-histidine (Km = 3.6 mM). Several histidine derivs. were not susceptible to the enzyme but did inhibit the enzyme activity competitively; the most effective inhibitors were L-histidine Me ester (inhibition const. Ki = 3.66mM) and .beta.-imidazole lactic acid (Ki = 3.84mM). L-histidine hydrazide (Ki = 36mM) and imidazole (Ki = 6mM) noncompetitively inhibited the enzyme. EDTA markedly inhibited enzyme activity and this inhibition was reversed by divalent metal ions such as Mn2+, Co2+, Zn2+, Ni2+, Mg2+, and Ca2+. Thus, the presence of divalent metal ions is necessary for the catalytic activity of histidine ammonia-lyase. NaBH4 and H2O2 inhibited the enzyme activity.

L27 ANSWER 37 OF 64 CAPLUS COPYRIGHT 2004 ACS on STN
1974:565325 Document No. 81:165325 ***Purification*** and properties of histidine ammonia-lyase from monkey liver. Dhanam, Mary; Radhakrishnan, A. N. (Wellcome Res. Unit, Christ. Med. Coll. Hosp., Vellore, India). Indian Journal of Biochemistry & Biophysics, 11(1), 1-6 (English) 1974. CODEN: IJBBBQ. ISSN: 0301-1208.
AB Histidine ammonia-lyase (I) from exts. of monkey liver was ***purified*** 600-fold. Optimum pH was 8.8; km was 1.6 mM with histidine. I was inhibited by carbonyl reagents and by NaBH4, irreversibly inhibited by Cu2+, Fe2+, Hg2+, and p-hydroxymercuribenzoate, and stimulated by thiols. The enzyme exists in an oxidized form (high mol.wt.; low activity) and a reduced from (low mol. wt.; high activity). The interconversion readily produced by 5,5'-dithiobis 2-nitrobenzoic acid and thiols. Chelating agents had no effect on I, but EDTA and cysteine inhibited I competitively. I after passage through CM-Sephadex showed limited, but specific, stimulation by Co2+ and Zn2+.

L27 ANSWER 52 OF 64 CAPLUS COPYRIGHT 2004 ACS on STN
1970:117879 Document No. 72:117879 ***Purification*** and homogeneity of the histidine ammonia-lyase from Pseudomonas fluorescens. Higashi, Daisuke (Med. Sch., Kumamoto Univ., Kumamoto, Japan). Kumamoto Medical Journal, 22(4), 180-8 (English) 1969. CODEN: KUMJAX. ISSN: 0023-5326.
AB Histidine ammonia-lyase (EC 4.3.1.3) from P. fluorescens was ***purified*** 147-fold in terms of sp. activity by the following procedures: heat and protamine treatments, (NH4)2SO4 fractionation, gel filtration on Sephadex G-50, chromatog. on Ca phosphate gel and DEAE-cellulose, and preparative polyacrylamide gel electrophoresis. The final and ***purified*** prepn. showed homogeneity in the mol. species of protein in ultracentrifugation anal. and presented a single band in anal. polyacrylamide gel electrophoresis. The ***purified*** enzyme had absorption peaks at the wavelengths of 275, 403, 500, 540, and 633 m.mu.. The Km for L-histidine was 6.5 .times. 10-3M.

L27 ANSWER 53 OF 64 CAPLUS COPYRIGHT 2004 ACS on STN

1970:39245 Document No. 72:39245 Histidine metabolism in fish. III. ***Purification*** and some properties of histidine deaminase from mackerel muscle. Sakaguchi, Morihiko; Kawai, Akira (Kyoto Univ., Kyoto, Japan). Nippon Suisan Gakkaishi, 34(11), 1040-6 (English) 1968. CODEN: NSUGAF. ISSN: 0021-5392.

AB Histidine deaminase was ***purified*** 380-fold from the muscle of mackerel, Scomber japonicus. The enzyme was relatively heat stable up to 55.degree. at pH 8.0, and had a pH optimum of 9. The enzymic activity was markedly inhibited by Cd++ and p-chloromercuribenzoate (pCMB), but it was not affected by other metals, EDTA, or SH-compds. Cysteine partially reversed the inhibition caused by pCMB.

L27 ANSWER 57 OF 64 CAPLUS COPYRIGHT 2004 ACS on STN

1969:44285 Document No. 70:44285 ***Purification*** and characterization of L-histidine ammonia-lyase (Pseudomonas). Rechler, Matthew M. (Nat. Inst. of Arthritis and Metab. Dis., Nat. Inst. of Health, Bethesda, MD, USA). Journal of Biological Chemistry, 244(3), 551-9 (English) 1969. CODEN: JBCHA3. ISSN: 0021-9258.

AB Histidine ammonia-lyase was ***purified*** from a pseudomonad grown on L-histidine. Enzyme prepns. appeared homogeneous in the ultracentrifuge and by anal. disk electrophoresis. Native enzyme had an S250,w' of 11.1 S and a D25,w of 0.50 .times. 10-6 cm.2 sec.-1 A mol. wt. of 214,000 was obtained from sedimentation velocity and diffusion and 211,000 from sedimentation equil. The enzyme was dissocd. by 6M guanidine hydrochloride-0.1M mercaptoethanol into subunits of mol. wt. 35,000. Mercaptoethanol both activates and inhibits the native enzyme.

L27 ANSWER 58 OF 64 CAPLUS COPYRIGHT 2004 ACS on STN

1968:474129 Document No. 69:74129 ***Purification*** and properties of rat liver ***histidase*** . Cornell, Neal W.; Villee, C. A. (Harvard Med. Sch., Boston, MA, USA). Biochimica et Biophysica Acta, 167(1), 172-8 (English) 1968. CODEN: BBACAQ. ISSN: 0006-3002.

AB Rat liver ***histidase*** (EC 4.3.1.3) was ***purified*** 200-fold. The final prepn. was estd. to be .apprx.80% pure and was used to evaluate cofactor requirements and other reaction parameters. ***Histidase*** had a mol. wt. of 226,000, a Km for histidine of 2.0 .times. 10-3M, and a pH optimum of 8.8-9.2. The enzyme is stimulated by glutathione although the latter appeared to function as a bivalent anion, not as a SH-protecting reagent. ***Histidase*** was inhibited by Versene, and the inhibition was effectively reversed by both Mn and Zn ions; Mg was slightly less effective in this regard. Some physiol. implications of the ***histidase*** reaction were discussed. 15 references.